Americold chose Primus Builders to build a new 312,000-square-foot cold storage distribution facility in Savannah, Georgia, United States, to export poultry. (Photo courtesy of Primus Builders.)

PRIMUS BUILDERS RECIPIENT OF CEBA BUILT BY THE BEST AWARD FOR EXPORT FACILITY

Project notable for deep dive pre-planning, tight scheduling and sustainability initiatives.

By Keith Loria

When Americold was looking to add a new 312,000-square-foot cold storage distribution facility in Savannah, Georgia, United States, to export poultry, it began a detailed search for the right company to get the job done.

Erik Gunderson, Founding Partner and Executive Vice President at Primus Builders, Inc., recalls hearing of the project when it went out for bids, and he knew this was a job he wanted to win.

"We knew we were going up against two or three other competitors on the job, and it was a project that Primus really wanted," he says. "Americold is a great customer, and we made the decision to outhustle our competitors on the proposal side. In making our plan, we really developed a deep dive on what it would take to build the job."

Although there was no guarantee the company would be chosen, the Primus team worked hard to understand the jurisdictional restrictions and timelines and invested significant time and effort on the engineering side to ensure it knew what it was delivering.

"We accompanied that with a really strong compliment of design/build partners – our design build electrician, fire protection, refrigeration – which we knew were huge components of the scope of a job like this," Gunderson says. "So, when you have those partners going in, you know exactly what you're building."

Once all the bids were in, and impressed by its efforts, Americold chose Primus Builders to construct the new poultry import/export facility near the Port of Savannah.

Overcoming Challenges

At 51-feet high, the 312,000-square-foot building was designed to offer Americold maximum flexibility in its cold storage options, which included a -20 degree QFR quick-freeze system, which freezes product faster and more efficiently.

But the project did not come without challenges.

The facility features automated conveyors, wrapping and labeling stations. (Photo courtesy of Primus Builders.)

After Americold awarded the project to Primus, they challenged the company to find ways to cut back on costs.

"Our partner, Fricks, has developed an optimized paving design, and we worked with them to be able to offer really robust exterior paving at some schedule and cost savings," Gunderson says. "We worked with our refrigeration partner, ALTA, to economize and stretch the absolute capacity of their refrigeration system. Owner, subcontractor and contractor all had eyes wide open, recognized there was risk and were willing to give it a go – that's what enabled us to push things to the limit that helped economize the job."

The schedule was another big challenge.

"The urgency was that Americold wanted to be shipping the power in the first quarter of 2020. So we made decisions and sequenced the work and were able to bulletproof the construction pad and deploy stone, putting our sub slab down in the summer and avoiding slowdowns with wet soil conditions," Gunderson says. "And we put a lot of our paving in very rapidly so we had great access to the site."

Michael Cole, Project Manager at Primus, notes an important key to keeping things on track was the use of the Last Planner System. It is a visual, collaborative way to plan, control and produce quality, predictable workflow by eliminating waste, optimizing resources and uncovering and solving problems.

"At first, subcontractors didn't really want to use it, but once they did, they started to realize it really helps," he says. "It's a collaboration between everyone on site and encourages the subcontractors to own the schedule and ultimately holds all the individual subs accountable. Without utilizing that, I don't think we would have hit our dates as well as we did."

The area is known for its high ground water, and the Primus team would often hit water when digging down just two to three feet. Plus, that water had nowhere to go, especially when it rained.

The solution was to lay gravel brought in from another part of the state, as there are no quarries near the site, and continuously pump water offsite. These actions made the ground stable enough for construction activities.

A more substantial problem was with permitting delays. When Primus reached out to the AHJ (authority having jurisdiction) during the design phase to discuss permitting, it learned that the facility previously built on the site was completed with a foundation-only permit and the local authorities originally agreed to the new Americold building having a foundation-only permit as well.

Cole shares that after Primus completed the grading and went to the AHJ seeking the agreed upon foundation-only permit, the AHJ changed its mind and instead required a full permit before any further construction could take place.

"This caused a delay of 19 days, but Last Planner again came to the rescue as it helped keep everyone on schedule," Cole notes.

But then Hurricane Dorian began creeping up the coast and the Georgia governor declared a state of emergency and began evacuations, so the Primus crew was forced to leave the job for about a week.

And just when everything looked to be running smooth as the project neared its completion, the COVID-19 pandemic arrived.

"We gutted it out and we were safe," Gunderson says. "It was all new at this point. People impacted by the virus were quarantined, but we never shut the job down and it didn't stop us from finishing on time."

Sustainability Efforts

When Dustin Norton, Primus' in-house sustainability project manager, learned of Americold's objectives for the project, it was quickly evident that the sustainability goals for the project were strong enough for the warehouse to become LEED certified. This was something Americold had not previously achieved on any of its other buildings.

First, Norton commissioned an energy model that proved the project could reach a 26 to 29% energy savings for a total of 11 to 12 LEED points.

"Although, LEED wasn't necessarily a given going into the project, Americold already had sustainability goals," Norton says. "I presented them with a preliminary scorecard that I created that revealed what it would take to get LEED Certified and potentially get to the LEED Silver level."

With any LEED project, Norton's goal is to get to the highest certification level that he can, given the resources provided to him. He gives a lot of credit to Americold for jumping on board and trusting him to get the project there.

"The fact is, there aren't many buildings of this type that are pursuing LEED and I believe that this project, and Americold, are leading the way by showing what's possible for these buildings," he says. "I also give a lot of credit to my design team, led by Michael Jones, for making the changes when I requested them and my construction project manager, Michael Cole, for being patient when it came to things like material selection."

Energy efficiency was aided by the systems selected and the construction of the envelope (insulation values of walls and roof). Water efficiency was largely aided by the choice of an air-cooled refrigeration system and use of low-flush/flow fixtures.

"Water conservation is very important to the Port of Savannah," Norton says. "The team was able to reduce the building's water consumption by 45%. Additional water savings were achieved by using ALTA Expert units."

Additionally, because the refrigeration system uses air instead of water to cool the building, it created significant water savings as well. For comparison, a similar-sized water-cooled refrigeration system utilizes nearly 10 million gallons of water annually.

The dock interior. (Photo courtesy of Primus Builders.)

"By using an air-cooled system, we are saving essentially all of that water," Norton says. "While LEED assigns more points to savings associated with things like irrigation savings and efficient fixtures in restrooms and break rooms (by using low and no flow fixtures) – which we also did on this project – the water savings associated with the refrigeration system choice have a much bigger impact on the way this building saves water. The ALTA Expert units are game changers."

Plus, the overall projected energy savings for the building – the sum of a lot of energy efficient measures – are expected to be 26 to 29%.

"Obviously, the refrigeration system is the biggest energy user for the building, so the increased efficiency of that system weighs heavy on the overall savings," Norton says. "Building envelope characteristics (walls, roof and floor) come in to play by selecting builds that increase the R values."

Choosing to go 100% LED lighting for the building was another choice that helped those energy model numbers.

"Because the warehouse represents around 95% of the overall building's energy use, these were the design choices that had the biggest role in the overall energy savings," Norton says. "However, choices made about efficient HVAC systems in the office, choosing glazing with an improved U-factor and reduced solar heat gain, and improved

building controls, also played a role in getting us to those numbers."

Norton notes it is significant the building is certified under LEED v4, and not the earlier LEED v2009, v4 is much more stringent than the earlier standard. The project incorporated some credit substitutions from LEED v4.1, which is even newer than v4.

"Because the building is a warehouse, we were able to take advantage of several compliance paths in v4 that are strictly for warehouse and distribution centers," Norton says.

Americold was so impressed with the sustainability initiatives incorporated by Primus, it is currently working to achieve LEED Silver certification on two additional projects for which Primus is the design-builder.

The End Result

Primus installed a -20° QFR quick-freeze system that pulls cold air into every freezer crevice and freezes product faster and more efficiently. This allows the facility to blast freeze 2 million pounds of chicken per day.

At 51-feet high, the 312,000-square-foot building was designed to offer Americold maximum flexibility in its cold storage options. (Photo courtesy of Primus Builders.)

Because of the area's high groundwater, gavel was laid and water continuously pumped offsite to stabilize the ground for construction activities. (Photo courtesy of Primus Builders.)

The finished project also includes a two-story office, a USDA inspection lab that allows inspectors to test the product for spoilage, employee welfare areas, a Quell fire protection system to ensure maximum coverage for the building height, ALTA Expert refrigeration units and automated conveyors, wrapping and labeling stations.

"There's a lot of pride in this facility from our whole Americold team as well as the Primus team," says John Long, Americold's Senior Engineering Project Manager. "Primus delivered, in the middle of a pandemic and everything."

Gunderson credits the success of the project to a willingness by the owner to allow Primus to deploy smart construction capital.

"We stoned the site, we did our exterior paving very rapidly, our fire roads were installed to provide total perimeter access to the site, we put our sub slab in before we hung our seal – it was a well-thought-out job," Gunderson says.

Cole agrees and adds the team hit a homerun on the procurement process.

"I never had a team like this, we needed them to be rock stars and they were," he says.

KEITH LORIA is an award-winning journalist who has been writing for major newspapers and magazines for close to 20 years, on topics as diverse as sports, business and technology.

EMAIL: freelancekeith@gmail.com

2020 BUILT BY THE BEST AWARD-WINNING SUPPLIER PROFILES

These are the companies integral to the success of the winning project.

ALTA Refrigeration, Inc.

ALTA Refrigeration is a full service design/build constructor of Industrial Refrigeration Systems. For over 30 years, ALTA's reputation for energy conservation, low maintenance costs, unique problem solving, and long term value is verified by the repeat business earned from numerous IARW members and other major companies. In-house designed computer control energy savings systems includes over 27 years experience and hundreds of installations. Our reliable 24-hour service department and well-stocked parts departments are important to your business. Licensed in over 22 states, ALTA is positioned to help companies realize a larger return on investment by reducing operating costs.

Dow Building Solutions

Dow Building Solutions serves the global building, construction and related markets with industry-leading insulation, housewrap, sealant and adhesive products, as well as complete systems. Through its extensive manufacturing, sales and technical support organization, Dow Building Solutions continually creates novel solutions for improved energy efficiency in buildings today, while also addressing the industry's emerging needs and demands.

Fastener Systems, Inc.

Specializing in fasteners for all types of cold storage, food processing & refrigerated warehouses. Stocking stainless, self-drilling, self-tapping, ZACS® and explosion release fasteners. FABLOKS®, long length teks and roofing screws in stock. Tools, accessories, INSTA-FOAM®, tapes, caulks and butyl. The originators of POLARFAST®, the concealed panel screw. Fast overnight delivery.

The Fricks Company

Industrial concrete floor contractor providing superior workmanship and outstanding customer satisfaction. Fricks specializes in providing the most durable concrete floor in the world through delivering their shrinkage compensating concrete floors which are holistically more durable and virtually eliminate curling and cracking while eliminating up to 90% of joints. The Fricks Company is the recognized leader in premium food facility, manufacturing, and distribution facility floor construction.

Global Insulated Doors Inc.

Global Insulated Doors is a premier manufacturer of cold storage insulated doors. Our specialty is developing custom doors for all projects no matter what the size. Global Insulated Doors is proud to be family owned and operated. Our reputation for manufacturing a complete range of quality insulated doors, from Personnel doors to large Electric sliding doors, is driven by our many years of experience. This experience and knowledge combined with high levels of integrity and professionalism ensures that our clients receive the best value, highest performance and most technologically advanced products and service in the marketplace today.

Green Span Profiles

Our products serve the cold storage, commercial/industrial and architectural market segments. Along with our manufactured products, Green Span Profiles offers a collection of services including technical support, engineering, and drafting. Green Span panels are formed by a continuously poured-in-place, manufacturing process that binds interior and exterior steel facings to a polyisocyanurate, insulating foam core. With exceptional insulating properties, superior spanning capability, accelerated installation times, cost-effective pricing, recycled content, plus a rigid feel and streamlined appearance the applications are limitless. All of our panels are rigorously tested and are FM 4880 and 4881 approved.

Group4 Reps (Gulf Eagle Supply)

Cold Storage Representative for Carlisle-Syntec, manufacturer of TPO, EPDM, PVC single ply roofing systems, and Owens Corning extruded polystyrene for the cold storage, food service and commercial roofing/waterproofing industries.

Johns Manville

Johns Manville manufacture premium-quality insulation, commercial roofing and fibers and nonwovens for commercial, industrial and residential applications. In addition to delivering well-made, reliable products, we are here to provide exceptional customer service and technical assistance to help ensure that your jobs are done right — from start to finish.

Lewis Electrical Contractors, Inc.

Lewis Electrical Contractors is your project's turnkey electrical construction provider. We specialize in commercial and industrial projects. We have established a reputation for quality performance and meeting the demands of challenging projects. Lewis Electrical Contractors, Inc. provides complete electrical services for new construction, existing buildings, modifications / tenant improvements, design-build and special projects in a variety of environments including manufacturing, warehouse distribution, medical, food processing, refrigeration, material handling, packaging and lighting.

Metl-Fab, Inc.

Metl-Fab, Inc. was founded in 2005 and is a cold storage construction contractor specializing in metal panels, cold storage services, truck dock canopies, metal fabrication and materials. We provide installation services across the United States and are well versed in all aspects of cold storage construction.

Metl-Span

Manufacturers of Factory Mutual Class I polyurethane foamed-in-place panels and polystyrene laminated insulated panels for the construction of cold storage, freezer, food processing and meat plants. Metl-Span also supplies panels for ambient buildings for commercial and industrial use. Find out why Metl-Span makes the most thermally efficient panels available today.

RHH Foam Systems Inc.

Manufacturers of VERSI-FOAM portable 2-component, low-pressure spray polyurethane foam systems. Units available in a variety of foam densities and sizes; both disposable and refillable containers. Also VERSI-TITE single component foam sealant and VERSI-BLOCK Fire Block and sealant in aerosol cans. All units compatible with low temperature environments and for a wide variety of insulating, sealing, caulking, and patching applications.

Rytec High Performance Doors

Rytec is a manufacturer of high-performance doors for industrial, commercial, pharmaceutical and cold-storage environments. Whether rolling, folding, sliding or swinging doors, high-performance doors are our only business. Rytec corporate offices and manufacturing operations are headquartered in Jackson, Wisconsin, a suburb of Milwaukee. Customer technical support is provided through regional offices and a network of local dealers and installers throughout North America.

Shadco Column Bearing Blocks

Shadco manufactures column bearing blocks, insulated wall panel blocking and pipe support insulation for use in cold storage and food processing building construction. Our column bearing blocks, also known as freezer blocks or thermal isolation blocks, are made from high density, high strength closed cell polyurethane. The blocks are manufactured according to your plans, pre-drilled ready for installation and are available in a variety of densities and compression strengths. Shadco offers short lead times as well as quick turn around on quotes and shop drawings. Contact us for more information and a quote.